NOTES ON WESTERN ARADIDÆ *

By E. P. VAN DUZEE
San Francisco, California

In 1921 appeared Doctor Parshley's Essay on the American Species of Aradus in which was recorded what was then known of our western species of the Aradinæ. Of the subfamily Mezirinæ there has been no recent revision of our American forms. The present paper records certain material accumulated in the collection of the California Academy of Sciences since 1921 in the Aradinæ, with somewhat fuller notes on our western Mezirinæ.

1. **Aradus vandykei** Van Duzee, n. sp.

Allied to *apicalis* and will run to that species in Parshley's key if the sides of the pronotum are considered to be granulated; as a matter of fact they are minutely crenulated as they are also in *apicalis,* from which species the present differs in the flat pronotum, less elevated scutellar margins and short genital segment of the female. Length, 7 mm.

Female. Vertex wanting the preocular tubercle, otherwise as in *apicalis.* Antennæ beyond base of segment II obviously thicker than in *apicalis,* with segment II longer. Rostrum shorter than in *apicalis,* not quite attaining hind margin of prosternum; bucculæ less elevated, its edge scarcely arcuated, in *apicalis* strongly lobed anteriorly. Pronotum shorter, three-fourths the length of the head, transverse, widest at basal third, anterior and posterior margins feebly excavated; surface nearly flat, transverse impressions feeble, sides scarcely elevated; edges irregularly granulate or minutely crenate, subparallel on basal third, thence rectilinear to anterior angles; carinæ distinct and straight. Scutellum a fourth shorter than in *apicalis,* nearly flat, subbasal ridge little elevated, sides narrowly recurved nearly to apex. Elytra as in *apicalis,* the membrane a little shorter with more slender veins. Apical lobes of abdomen longer than in *apicalis,* about twice as long at the rounded inner angles as at outer angles. Apical ventral segment slightly surpassing apex of seventh tergal segment.

Color blackish fuscous; antennæ black, segment I brown; sides of pronotum scarcely paler, tip of scutellum and legs testaceous yellow, apex of femora embrowned; elytra yellowish becoming blackish at apex and on basal and scutellar margins, with a few fuscous marks on the disk which omit the expanded humeri; abdomen paler tinged with red, with fuscous granules; rostrum brown.

Holotype, female, No. 2457, Mus. Calif. Acad. Sci., a unique,

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taken by Dr. E. C. Van Dyke, June 21, 1925, on **Mount Hood, Oregon.** Here the pronotum has the flattened form we find in *behrensi,* but it is wider posteriorly; it is shaped not at all as in *duzeei.* This species has three smooth areas on hind margin of pronotum, but they are not conspicuously polished, otherwise it would run to *ornatus* in Parshley's key; the form of the pronotum will, however, at once distinguish it from that species.

2. ARADUS TAYLORI Van Duzee

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Mount Hood, Oregon, about 4000 feet, June 23, 1925, one male taken by Doctor Van Dyke and by him kindly presented to the Academy. This specimen differs in no way from the type taken on Vancouver Island.

Doctor Parshley sinks this species as a straight synonym of *proboscideus* Walker, but, assuming *hubbardi* to represent the true *proboscideus, taylori* should undoubtedly be retained as a good species. In *taylori* the antennæ are distinctly thicker, the preocular tubercle is reduced to a mere granule little larger than those of the adjoining surface, the postocular tubercle is smaller and obtuse, the pronotum is widest behind the middle, not broadly rounded as in *hubbardi,* the surface is much flatter with the carinæ less prominent; the scutellum is broader and flatter with the edges and base scarcely elevated, the former not at all sinuate but very feebly arcuate, becoming almost rectilinear toward the broader, rounded apex; the elytra are wider, with their base less expanded and the rostrum is shorter, not passing the base of the prosternum. The colors in *taylori* are less contrasting and the tip of the scutellum is concolorous. This comparison has been made between the male holotype of *taylori* and a male determined as *hubbardi* by Doctor Parshley, the latter altogether conspecific with a long series in the collection of the California Academy of Sciences. *Taylori* is a readily recognizable species and should be considered as distinct.

3. **Aradus patibulus** Van Duzee, n. sp.

Recalling *curticollis* Bergr. but showing many points of difference. Dark brown, the abdomen uniformly paler, almost reddish brown, third antennal segment honey-yellow. Length, 8 mm.

Female. Head as long as wide across the eyes; tylus short and thick; antenniferous tubercles short, nearly attaining middle of seg-

ment I, with a distinct lateral tooth; impressions on vertex broad and deep; preocular and postocular tubercles prominent but obtuse. Antennæ but little shorter than head and pronotum together, stout, segment I reaching beyond middle of tylus, a little thinner than anterior femora; II as thick as I, nearly as long as width of vertex between the eyes; III about two-thirds as long as II, toward base distinctly thinner than apex of II; IV two-thirds of III and nearly as wide. Eyes substylate. Pronotum shaped about as in *curticollis*; sides basally reflexed, edge coarsely granulate, becoming finely crenate anteriorly; surface flat, anterior field little elevated; granules confined to lateral areas; median four carinæ prominent, lateral subobsolete. Scutellum longer than pronotum, strongly narrowed apically, sides much reflexed. Elytra much narrower than abdomen; base strongly expanded and reflexed; mesocorium with one strong transverse vein, endo- and exocorium without veins; membrane uniformly wrinkled, with four strong veins. Abdomen suborbicular in outline, edge even, hind margins of segments slenderly calloused. Genital lobes less than half as long as wide, regularly arcuate. Rostrum attaining middle of anterior coxæ. Tibiæ with a vague broad darker median annulus.

Holotype, female, No. 2458, Mus. Calif. Acad. Sci., collected by Mr. J. O. Martin July 10, 1922, at **Martin's Springs, Lassen County, California,** at 6000 feet elevation. The broadly oval form with the pale yellowish third antennal segment will readily distinguish this interesting species. As in the case of *vandykei,* the type is unfortunately unique.

Mezirinæ

4. Mezira mœsta Stål

The examination of a long series of specimens placed under this name in the collection of the Academy of Sciences discloses two quite distinct species, which, however, have the same size, color and general aspect. In one, evidently the true *mœsta* Stål, the apical process of the head just passes the middle of the first antennal segment; segments II and IV are subequal and about one-third shorter than I, while III is but little longer than I and cylindrical. Head, pronotum, scutellum and middle area of sixth tergite coarsely granulate; broad expanded margins of the tergum coarsely rugose-punctate; genital plates of female prominent, rounded, almost attaining apex of genital valves, the latter produced in a blunt angle beyond the oviduct. In the male the genital segment is prominent, almost bulbous, with the lateral lobes small and ligulate. Venter closely rugose with a row of rounded smooth spots, two on a segment, at the stig-

mata, a similar geminate row within this and three single rows on the disk, the spots of the median row elongated.

This species is found from Monroe, Washington, to the Mexican boundary, especially along the foothills of the Sierra and Coast Range, attaining an elevation of 6000 feet in places. It seems to be the only species found along the coastal belt.

5. **Mezira reducta** Van Duzee, n. sp.

Like *mœsta* in all superficial characters. Antennæ rather shorter and stouter; segment I thicker, scarcely surpassing the rather deeply cleft frontal prominence, III as long as I and II together, IV obviously longer than I; postocular tubercles thick, subacute; membrane black, more closely reticulated and wanting the pale basal spot usually found in *mœsta*; sides of tergum more minutely rugose-punctate than in *mœsta*. Genital plates of female shorter, semicircular in outline; genital valves scarcely exceeding the oviduct, about equaling the plates; male genital segment broader. Other characters essentially as in *mœsta*. Length, 7.5 to 8 mm.

Holotype, male, No. 2459, and allotype, female, No. 2460, Mus. Calif. Acad. Sci., collected by Mr. J. O. Martin, May 19, 1922, at **Facht, Lassen County, California.** Paratypes same data and Stevenson's Creek, Fresno County, California, August 24, 1916 (F. E. Blaisdell); Carrville, Trinity County, California, June 19, 1913 (E. C. Van Dyke); Plumas County, California, November 16, 1917 (E. R. Leach). Described from a series of forty specimens. This species seems to be close to *rugicollis* Champion, but I cannot believe it the same. It seems to be more northern in its distribution. The shorter, thicker first antennal segment and shorter, rounded female genital lobes will readily distinguish it from *mœsta*.

6. Mezira granulata Say

Mount Lemon, Santa Catalina Mountains, Arizona, 7000 feet, July 26, 1924, under bark of pine logs. The short broad scutellum will distinguish this form from *mœsta* and its allies.

7. Mezira emarginata Say

A long series of this species was taken by Mr. J. A. Kusche at Needles, California, November 27 to December 4, 1921.

8. Neuroctenus simplex Uhler

Mr. C. D. Duncan has taken this species under bark of oak at Alford, Wise County, Texas, August 18, 1921.